

Claims

[c1] WHAT IS CLAIMED IS:

1.A camshaft adjustor for internal combustion engines of motor vehicles, the camshaft adjustor comprising:

a stator having a casing and stays connected to the casing and projecting radially inwardly;

a rotor rotatable relative to the stator and configured to be fastened on a camshaft of an internal combustion engine;

wherein the rotor has a rotor base member and vanes connected to the rotor base member;

wherein the vanes project into spaces between the stays of the stator, respectively;

wherein the stays each have an end face that rest sealingly against the rotor base member of the rotor;

wherein the vanes of the rotor each have an end face resting sealingly against an inner peripheral wall of the stator;

wherein at least one of the vanes of the rotor has at least one damping element and wherein the stator has at least one counter damping element, wherein upon rotation of the rotor into an end position of the rotor the at least one damping element interacts with the at least one

counter damping element.

- [c2] 2. The camshaft adjuster according to claim 1, wherein the at least one damping element is a groove provided in a vane sidewall of the at least one rotor vane.
- [c3] 3. The camshaft adjuster according to claim 2, wherein the at least one damping element is provided at a spacing from the end face of the at least one rotor vane.
- [c4] 4. The camshaft adjuster according to claim 3, wherein the at least one damping element is provided at approximately half a radial length of the vane sidewall of the rotor vane.
- [c5] 5. The camshaft adjuster according to claim 1, wherein the at least one counter damping element is a projection projecting in a circumferential direction of the stator from a stay sidewall of one of the stays.
- [c6] 6. The camshaft adjuster according to claim 1, wherein the at least one damping element is a projection on a vane sidewall of the at least one rotor vane, wherein the projection extends in a circumferential direction of the rotor.
- [c7] 7. The camshaft adjuster according to claim 6, wherein the at least one damping element is provided on a radial

outer end of the vane sidewall of the at least one rotor vane.

[c8] 8. The camshaft adjuster according to claim 6, wherein the at least one counter damping element is a groove in stay sidewalls of at least one of the stays, wherein the groove extends in the circumferential direction of the stator.

[c9] 9. The camshaft adjuster according to claim 1, wherein the at least one rotor vane has vane sidewalls having rounded portions connecting the vane sidewalls to an outer peripheral surface of the rotor base member.

[c10] 10. The camshaft adjuster according to claim 9, wherein stay sidewalls of at least one of the stays have rounded portions connecting the stay sidewalls to the end face of the at least one stay.

[c11] 11. The camshaft adjuster according to claim 10, wherein a radius of curvature of the rounded portions of the at least one rotor vane is smaller than a radius of curvature of the rounded portions of the at least one stay.

[c12] 12. The camshaft adjuster according to claim 9, wherein the rotor base member has at least one bore opening at a location of the rounded portions of the vane sidewalls

of the at least one rotor vane, wherein the at least one bore supplies a pressure medium.

- [c13] 13. The camshaft adjuster according to claim 1, wherein the at least one rotor vane has vane sidewalls that are planar adjacent to the at least one damping element provided in the vane sidewalls, and wherein the at least one counter damping element is provided in stay sidewalls of one of the stays, wherein the stay sidewalls of the stay adjacent to the counter damping element are planar.